

Uncertainty of channel	SR1LBin0	SR1LBin1	SR1LBin2	SR1LBin3	SR1LBin4
Total background expectation	170.92	171.53	54.54	20.12	16.38
Total statistical ( $\sqrt{N_{\text{exp}}}$ )	$\pm 13.07$	$\pm 13.10$	$\pm 7.39$	$\pm 4.49$	$\pm 4.05$
Total background systematic	$\pm 16.80$ [9.83%]	$\pm 14.71$ [8.58%]	$\pm 7.07$ [12.96%]	$\pm 3.07$ [15.26%]	$\pm 3.40$ [20.73%]
alpha_JER_EffectiveNP_1	$\pm 6.79$ [4.0%]	$\pm 2.08$ [1.2%]	$\pm 1.02$ [1.9%]	$\pm 0.21$ [1.0%]	$\pm 0.20$ [1.2%]
alpha_PartonShower-Top1L	$\pm 5.43$ [3.2%]	$\pm 8.94$ [5.2%]	$\pm 4.21$ [7.7%]	$\pm 1.31$ [6.5%]	$\pm 0.88$ [5.4%]
alpha_JER_EffectiveNP_2	$\pm 5.27$ [3.1%]	$\pm 1.18$ [0.69%]	$\pm 1.10$ [2.0%]	$\pm 0.34$ [1.7%]	$\pm 0.62$ [3.8%]
alpha_FSR-Top1L	$\pm 4.82$ [2.8%]	$\pm 4.38$ [2.6%]	$\pm 0.33$ [0.60%]	$\pm 0.70$ [3.5%]	$\pm 0.17$ [1.1%]
gamma_stat_SR1LBin0.cuts_bin_0	$\pm 4.23$ [2.5%]	$\pm 0.00$ [0.00%]	$\pm 0.00$ [0.00%]	$\pm 0.00$ [0.00%]	$\pm 0.00$ [0.00%]
alpha_JER_DataVsMC	$\pm 4.18$ [2.4%]	$\pm 1.04$ [0.61%]	$\pm 1.02$ [1.9%]	$\pm 0.32$ [1.6%]	$\pm 0.42$ [2.5%]
alpha_JER_EffectiveNP_7restTerm	$\pm 3.98$ [2.3%]	$\pm 1.06$ [0.62%]	$\pm 0.12$ [0.23%]	$\pm 0.25$ [1.2%]	$\pm 0.03$ [0.21%]
alpha_PartonShower-SingleTop	$\pm 3.96$ [2.3%]	$\pm 0.42$ [0.24%]	$\pm 1.99$ [3.6%]	$\pm 0.80$ [4.0%]	$\pm 0.38$ [2.3%]
alpha_JES_Group2	$\pm 3.79$ [2.2%]	$\pm 1.20$ [0.70%]	$\pm 1.21$ [2.2%]	$\pm 0.04$ [0.18%]	$\pm 0.02$ [0.15%]
alpha_JES_Group1	$\pm 3.40$ [2.0%]	$\pm 1.11$ [0.65%]	$\pm 0.97$ [1.8%]	$\pm 0.46$ [2.3%]	$\pm 0.04$ [0.26%]
alpha_muR_muF-ttV	$\pm 3.14$ [1.8%]	$\pm 4.77$ [2.8%]	$\pm 2.14$ [3.9%]	$\pm 0.87$ [4.3%]	$\pm 0.66$ [4.0%]
alpha_JER_EffectiveNP_3	$\pm 3.03$ [1.8%]	$\pm 1.69$ [0.98%]	$\pm 0.30$ [0.55%]	$\pm 0.67$ [3.3%]	$\pm 0.41$ [2.5%]
alpha_JER_EffectiveNP_4	$\pm 2.89$ [1.7%]	$\pm 2.56$ [1.5%]	$\pm 0.61$ [1.1%]	$\pm 0.10$ [0.48%]	$\pm 0.04$ [0.26%]
alpha_JET_Flavor_Response	$\pm 2.82$ [1.7%]	$\pm 0.92$ [0.54%]	$\pm 0.15$ [0.28%]	$\pm 0.18$ [0.90%]	$\pm 0.06$ [0.39%]
alpha_FSR-SingleTop	$\pm 2.79$ [1.6%]	$\pm 0.68$ [0.39%]	$\pm 0.11$ [0.20%]	$\pm 0.22$ [1.1%]	$\pm 1.23$ [7.5%]
alpha_JER_EffectiveNP_5	$\pm 2.52$ [1.5%]	$\pm 1.86$ [1.1%]	$\pm 0.69$ [1.3%]	$\pm 0.26$ [1.3%]	$\pm 0.05$ [0.30%]
alpha_ISR-SingleTop	$\pm 1.87$ [1.1%]	$\pm 2.99$ [1.7%]	$\pm 1.13$ [2.1%]	$\pm 0.60$ [3.0%]	$\pm 1.09$ [6.7%]
alpha_MatrixElement-SingleTop	$\pm 1.59$ [0.93%]	$\pm 2.48$ [1.4%]	$\pm 0.13$ [0.23%]	$\pm 0.25$ [1.3%]	$\pm 0.35$ [2.2%]
alpha_MatrixElement-Top1L	$\pm 1.44$ [0.84%]	$\pm 3.91$ [2.3%]	$\pm 1.35$ [2.5%]	$\pm 0.36$ [1.8%]	$\pm 1.54$ [9.4%]
alpha_muR_muF-Diboson	$\pm 1.36$ [0.79%]	$\pm 1.68$ [0.98%]	$\pm 0.80$ [1.5%]	$\pm 0.37$ [1.9%]	$\pm 0.47$ [2.8%]
alpha_Interference-SingleTop	$\pm 1.08$ [0.63%]	$\pm 2.75$ [1.6%]	$\pm 2.18$ [4.0%]	$\pm 1.46$ [7.3%]	$\pm 1.26$ [7.7%]
alpha_ISR-Top1L	$\pm 0.87$ [0.51%]	$\pm 1.55$ [0.91%]	$\pm 1.42$ [2.6%]	$\pm 0.67$ [3.3%]	$\pm 0.66$ [4.0%]
alpha_JES_Group3	$\pm 0.80$ [0.47%]	$\pm 0.05$ [0.03%]	$\pm 0.29$ [0.54%]	$\pm 0.21$ [1.0%]	$\pm 0.17$ [1.0%]
alpha_muR_muF-Wjets	$\pm 0.72$ [0.42%]	$\pm 1.53$ [0.89%]	$\pm 0.72$ [1.3%]	$\pm 0.08$ [0.40%]	$\pm 0.49$ [3.0%]
Lumi	$\pm 0.68$ [0.40%]	$\pm 0.84$ [0.49%]	$\pm 0.34$ [0.62%]	$\pm 0.15$ [0.74%]	$\pm 0.13$ [0.80%]
alpha_muR_muF-Zjets	$\pm 0.24$ [0.14%]	$\pm 0.12$ [0.07%]	$\pm 0.02$ [0.03%]	$\pm 0.01$ [0.04%]	$\pm 0.01$ [0.05%]
alpha_qsf-Wjets	$\pm 0.24$ [0.14%]	$\pm 0.17$ [0.10%]	$\pm 0.04$ [0.08%]	$\pm 0.04$ [0.18%]	$\pm 0.04$ [0.24%]
alpha_JET_EtaInt_negEta	$\pm 0.17$ [0.10%]	$\pm 0.02$ [0.01%]	$\pm 0.01$ [0.01%]	$\pm 0.00$ [0.01%]	$\pm 0.01$ [0.05%]
alpha_ckkw-Wjets	$\pm 0.08$ [0.05%]	$\pm 0.32$ [0.18%]	$\pm 0.05$ [0.09%]	$\pm 0.10$ [0.49%]	$\pm 0.11$ [0.67%]
alpha_JET_EtaInt_highE	$\pm 0.03$ [0.02%]	$\pm 0.03$ [0.02%]	$\pm 0.00$ [0.00%]	$\pm 0.00$ [0.00%]	$\pm 0.00$ [0.00%]
alpha_ckkw-Zjets	$\pm 0.03$ [0.01%]	$\pm 0.01$ [0.00%]	$\pm 0.01$ [0.02%]	$\pm 0.00$ [0.00%]	$\pm 0.00$ [0.01%]
alpha_qsf-Zjets	$\pm 0.02$ [0.01%]	$\pm 0.00$ [0.00%]	$\pm 0.01$ [0.02%]	$\pm 0.00$ [0.01%]	$\pm 0.00$ [0.01%]
alpha_JET_RelNonClos_AFII	$\pm 0.01$ [0.01%]	$\pm 0.02$ [0.01%]	$\pm 0.01$ [0.01%]	$\pm 0.00$ [0.00%]	$\pm 0.00$ [0.01%]
mu_tt_1L	$\pm 0.01$ [0.01%]	$\pm 0.01$ [0.00%]	$\pm 0.00$ [0.00%]	$\pm 0.00$ [0.00%]	$\pm 0.00$ [0.00%]
alpha_JER_EffectiveNP_6	$\pm 0.00$ [0.00%]	$\pm 2.36$ [1.4%]	$\pm 0.24$ [0.44%]	$\pm 0.24$ [1.2%]	$\pm 0.04$ [0.27%]
mu_W	$\pm 0.00$ [0.00%]	$\pm 0.00$ [0.00%]	$\pm 0.00$ [0.00%]	$\pm 0.00$ [0.00%]	$\pm 0.00$ [0.00%]
alpha_JER_DataVsMC_AFII	$\pm 0.00$ [0.00%]	$\pm 0.01$ [0.01%]	$\pm 0.00$ [0.00%]	$\pm 0.00$ [0.00%]	$\pm 0.00$ [0.00%]
alpha_JET_EtaInt_posEta	$\pm 0.00$ [0.00%]	$\pm 0.03$ [0.02%]	$\pm 0.02$ [0.03%]	$\pm 0.00$ [0.01%]	$\pm 0.00$ [0.03%]
gamma_stat_SR1LBin3.cuts_bin_0	$\pm 0.00$ [0.00%]	$\pm 0.00$ [0.00%]	$\pm 0.00$ [0.00%]	$\pm 1.12$ [5.6%]	$\pm 0.00$ [0.00%]
gamma_stat_tW1L_CRWm.cuts_bin_0	$\pm 0.00$ [0.00%]	$\pm 0.00$ [0.00%]	$\pm 0.00$ [0.00%]	$\pm 0.00$ [0.00%]	$\pm 0.00$ [0.00%]
gamma_stat_SR1LBin2.cuts_bin_0	$\pm 0.00$ [0.00%]	$\pm 0.00$ [0.00%]	$\pm 2.37$ [4.3%]	$\pm 0.00$ [0.00%]	$\pm 0.00$ [0.00%]
gamma_stat_SR1LBin4.cuts_bin_0	$\pm 0.00$ [0.00%]	$\pm 0.00$ [0.00%]	$\pm 0.00$ [0.00%]	$\pm 0.00$ [0.00%]	$\pm 1.28$ [7.8%]
gamma_stat_SR1LBin1.cuts_bin_0	$\pm 0.00$ [0.00%]	$\pm 4.21$ [2.5%]	$\pm 0.00$ [0.00%]	$\pm 0.00$ [0.00%]	$\pm 0.00$ [0.00%]
gamma_stat_tW1L_CRWp.cuts_bin_0	$\pm 0.00$ [0.00%]	$\pm 0.00$ [0.00%]	$\pm 0.00$ [0.00%]	$\pm 0.00$ [0.00%]	$\pm 0.00$ [0.00%]
gamma_stat_tW1L_CRtt.cuts_bin_0	$\pm 0.00$ [0.00%]	$\pm 0.00$ [0.00%]	$\pm 0.00$ [0.00%]	$\pm 0.00$ [0.00%]	$\pm 0.00$ [0.00%]

Table 1: Breakdown of the dominant systematic uncertainties on background estimates in the various signal regions. Note that the individual uncertainties can be correlated, and do not necessarily add up quadratically to the total background uncertainty. The percentages show the size of the uncertainty relative to the total expected background.